Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L3	8	shea NEAR lonnie	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/02/06 09:46
L4	18	BONADIO NEAR jeffrey	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/02/06 09:46
L5	85	mooney NEAR david	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/02/06 09:46
L6	44	Ma NEAR Peter	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/02/06 09:46
L7	31	(L3 L4 L5) AND porous	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/02/06 09:46
L8	5406	alginate.clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/02/06 09:47
L9	1271	L8 and porous	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/02/06 09:47
L10	8	L9 and (cellular ADJ interaction)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/02/06 09:47
L11	16	alginate porous covalent	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/02/06 09:47
L12	20	(US-20020005600-$ or US-20020045672-$ or US-20020058718-$ or US-20030071383-$).did. or (US-3975350-$ or US-5639473-$ or US-5763416-$ or US-5942496-$ or US-6103255-$ or US-6281256-$ or US-6281257-$ or US-6511650-$ or US-6562374-$ or US-6642363-$ or US-6767928-$ or US-6797738-$).did. or (WO-9844027-$ or WO-9958656-$).did. or (WO-9812228-$ or WO-9958656-$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/06 09:48

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(FILE 'HOME' ENTERED AT 10:24:49 ON 06 FEB 2006)

FILE 'MEDLINE, AGRICOLA, CAPLUS, SCISEARCH, BIOSIS' ENTERED AT 10:25:06 ON 06 FEB 2006

L1 11 S ALGINATE (L) POROUS (L) COVALENT
L2 4 DUP REM L1 (7 DUPLICATES REMOVED)
L3 23 S ALGINATE (L) POR? (L) COVALENT
L4 8 DUP REM L3 (15 DUPLICATES REMOVED)

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L4 ANSWER 1 OF 8 MEDLINE on STN DUPLICATE 1
AN 2004351984 MEDLINE
TI Shape retaining injectable hydrogels for minimally invasive bulking.
SO Journal of urology, (2004 Aug) 172 (2) 763-8.
Journal code: 0376374. ISSN: 0022-5347.
AU Thornton Amanda J; Alsberg Eben; Hill Elliot E; Mooney David J
AB PURPOSE: Particle migration, poor shape definition and/or rapid resorption limit the success of current urethral bulking agents. We propose that shape defining **porous** scaffolds that allow cell infiltration and anchoring, and may be delivered in a minimally invasive manner may provide many advantageous features. MATERIALS AND METHODS: **Alginate** hydrogels were prepared with varying degrees of **covalent** cross-linking and different **pore** characteristics. Dehydrated scaffolds were compressed into smaller, temporary forms, introduced into the dorsal subcutaneous space of CD-1 mice by minimally invasive delivery through a 10 gauge angiocatheter and rehydrated in situ with a saline solution delivered through the same catheter. Ionically cross-linked calcium **alginate** gel served as a control. Specimens were harvested at 2, 6, 12 and 24 weeks to evaluate implant shape retention and volume, cell infiltration and calcification, and the presence of an inflammatory response. RESULTS: A total of 90 scaffolds were implanted and 95% were recovered at the site of injection. All of these scaffolds successfully rehydrated and 80% recovered and maintained their original 3-dimensional shape for 6 months. Scaffold volume and tissue infiltration varied depending on the degree of **alginate** cross-linking. Highly cross-linked materials (20% and 35%) demonstrated the best volume maintenance with the latter facilitating the most tissue infiltration. The inflammatory response was minimal except with the 80% cross-linked material. Calcification was not observed in covalently cross-linked scaffolds. In contrast, 98% of calcium **alginate** implants were calcified. CONCLUSIONS: Shape retaining **porous** hydrogels meet many of the requirements necessary for a successful injectable bulking agent and offer advantages over currently used agents.

L4 ANSWER 2 OF 8 MEDLINE on STN DUPLICATE 2
AN 2001293274 MEDLINE
TI Improvement in the mucoadhesive properties of alginate by the covalent attachment of cysteine.
SO Journal of controlled release : official journal of the Controlled Release Society, (2001 Apr 28) 71 (3) 277-85.
Journal code: 8607908. ISSN: 0168-3659.
AU Bernkop-Schnurch A; Kast C E; Richter M F
AB The purpose of the present study was to improve the mucoadhesive properties of **alginate** by the **covalent** attachment of cysteine. Mediated by a carbodiimide, L-cysteine was covalently linked to the polymer. The resulting thiolated **alginate** displayed 340.4+/-74.9 micromol thiol groups per g conjugate (means+/-S.D.; n=4). Within 2 h the viscosity of an aqueous mucus/**alginate**-cysteine conjugate mixture pH 7.0 increased at 37 degrees C by more than 50% compared to a mucus/**alginate** mixture, indicating enlarged interactions between the mucus and the thiolated polymer. Tensile studies carried out on freshly excised **porcine** intestinal mucosa demonstrated a total work of adhesion (TWA) of 25.8+/-0.6 and 101.6+/-36.1 microJ for **alginate** and the **alginate**-cysteine conjugate, respectively (means+/-S.D.; n=5). The maximum detachment force (MDF) was thereby in good correlation with the TWA. Due to the

immobilization of cysteine, the swelling velocity of the polymer was significantly accelerated (P<0.05). In aqueous media the **alginate** -cysteine conjugate was capable of forming inter- and/or intramolecular disulfide bonds. Because of this crosslinking process within the polymeric network, the cohesive properties of the conjugate were also improved. Tablets comprising the unmodified polymer disintegrated within 49+/-14.5 min, whereas tablets of thiolated **alginate** remained stable for 148.8+/-39.1 min (means+/-S.D.; n=3). These features should render thiolated **alginate** useful as excipient for various drug delivery systems providing an improved stability and a prolonged residence time on certain mucosal epithelia.

L4 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:767609 CAPLUS
DN 130:114973
TI PEG crosslinked alginate hydrogels with controlled mechanical properties
SO Materials Research Society Symposium Proceedings (1998), 530(Biomaterials Regulating Cell Function and Tissue Development), 37-42
CODEN: MRSPDH; ISSN: 0272-9172
AU Eiselt, Petra; Rowley, Jon A.; Mooney, David J.
AB Reconstruction of tissues and organs utilizing cell transplantation offers an attractive approach for the treatment of patients suffering from organ failure or loss. Highly **porous** synthetic materials are often used to mimic the function of the extracellular matrix (ECM) in tissue engineering, and serve as a cell delivery vehicle for the formation of tissues in vivo. **Alginate**, a linear copolysaccharide composed of D-mannuronic acid (M) and L-guluronic acid (G) units is widely used as a cell transplantation matrix. **Alginate** is considered to be biocompatible, and hydrogels are formed in the presence of divalent cations such as Ca2+, Ba2+ and Sr+. However, ionically crosslinked **alginate** gels continuously lose their mech. properties over time with uncontrollable degradation behavior. We have modified **alginate** via **covalent** coupling of crosslinking mols. to expand and stabilize the mech. property ranges of these gels. Several diamino PEG mols. of varying mol. weight (200, 400, 1000, 3400) were synthesized utilizing carbodiimide chemical Sodium **alginate** was covalently crosslinked with these crosslinking mols., and mech. properties of the resulting hydrogels were determined The elastic modulus of the crosslinked **alginates** depended on the mol. weight of the crosslinking mols., and ranged from 10-110 kPa. The theor. crosslink d. in the hydrogels was also varied from 3 to 47% (relative to the carboxylic groups in the **alginate**) and the mech. properties were measured. The elastic modulus increased gradually and reached a maximum at a cross-link d. of 15%. In summary, covalently coupled hydrogels can be synthesized which exhibit a wide range of mech. properties, and these materials may be useful in a number of tissue engineering applications.